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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,037	07/01/2003	Norikazu Urata	03389/LH	5839

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FRISHAUF, HOLTZ, GOODMAN & CHICK, PC
767 THIRD AVENUE
25TH FLOOR
NEW YORK, NY 10017-2023

EXAMINER	
TRAIL, ALLYSON NEEL	

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/612,037	URATA, NORIKAZU	
	Examiner	Art Unit	
	Allyson N. Trail	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/01/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-3, 5-7, 9-11, 13-15, and 17-24 are objected to because of the following informalities:

Re claims 1, 5, 9, and 13, line 5: replace "the wavelength" with --a wavelength--.

Re claims 1, 5, 9, and 13, line 6: replace "the incident" with --an incident--.

Re claims 1, 5, and 9, line 6: replace "the transmissivity" with --a transmissivity--.

Re claims 1,5, 9, and 13, line 7: replace "the thickness" with --a thickness--.

Re claims 1, 5, 9, and 13, line 10: replace "the predetermined" with --a predetermined--.

Re claim 1, line 11: replace "the wavelength" with --a wavelength--.

Re claims 2, 6, 10, and 14, line 4: replace "the refractive index" with --a first refractive index--.

Re claims 2, 6, 10, and 14, line 5: replace "the refractive index" with --a second refractive index--.

Re claims 3, 7, 11, and 15, line 4: replace "the position" with --a position--.

Re claim 13, line 6: replace "the reflectivity" with --a reflectivity--.

Re claims 17, 19, 21, and 23, line 2: replace "the wavelength" with --a wavelength--.

Re claims 17, 19, 21, and 23, line 14: replace "the incident" with --an incident--.

Re claims 17 and 19, line 15: replace "the transmissivity" with --a transmissivity--.

Re claims 17, 19, 21, and 23, line 16: replace "the thickness" with --a thickness--.

Re claim 17, line 19: replace "the predetermined" with --a predetermined--.

Re claims 17, 21, and 23, line 23: replace "the direction" with --a direction--.

Re claims 18, 20, 22, 24, line 3: replace "the reflection" with --a reflection--.

Re claim 19, line 16: replace "the wavelength" with --a wavelength--.

Re claim 19, line 20: replace "the predetermined" with --a predetermined--.

Re claim 19, line 25: replace "the direction" with --a direction--.

Re claims 21 and 23, line 14: replace "the wavelength" with --a wavelength--.

Re claims 21 and 23, line 15: replace "the reflectivity" with --a reflectivity--.

Re claims 21 and 23, line 18: replace "the predetermined" with --a predetermined--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 5, 9, 13, and 17-24, rejected under 35 U.S.C. 103(a) as being unpatentable over Dvorkis et al (5,923,021) in view of Lee et al (2003/0142408).

Dvorkis et al teaches the following in regards to claims 1, 5, 9, 13, and 17-24:

"This invention generally relates to an apparatus for and a method of electro-optically reading indicia having parts of different light reflectivity, for example, bar code or matrix array symbols, and, more particularly, to controlling the viewing angle of, or

the light input to, photodetectors used in such apparatus for sensing light reflected from such indicia." (Col. 1, lines 28-34).

"The light source in a laser scanner bar code reader is typically a gas laser or semiconductor laser." (Col. 1, lines 61-62).

"Bar code reading systems also include a sensor or photo-detector which detects light reflected or scattered from the symbol." (Col. 3, lines 6-8).

"FIG. 3 is a perspective view of a louvered detector used in the bar code reader according to the present invention." (Col. 8, lines 66-67).

"One of the key features of a light collection system according to the present invention is to implement a louver, or microlouver, film in front of a generally planar light detector 146 or sensor so that only reflected light directed along a narrow angular segment or spatial volume reaches the sensor. As shown in FIG. 3, a microlouver is an array of thin, elongated slats 301 formed from a thin plastic film 300 such as commercially available from the 3M Corporation under the name "Light Control Film" disposed over the planar light detector 146. The thin plastic film contains closely spaced black microlouvers." (Col. 9, lines 1-10).

"As depicted in FIG. 3, the film 300 permits 75% transmission at an angle normal to the planar surface of the detector 146, 35% transmission at an angle of 15° normal to the surface, and 0% transmission (cut-off) at an angle of 30° normal to the surface. The film 300 is oriented on the detector 146 so that the direction of the slats 301 is orthogonal to the direction of the bars in the bar code symbol 170 being scanned. Such an orientation will act as an "optical gain" filter by passing signals associated with a

properly positioned bar code, and attenuating signals associated with text, background materials, or adjacent bar codes positioned in directions other than in the direction of scanning. The slats 301 may be colored to absorb light of an unwanted frequency range, and to strongly reflect laser light, e.g. red, scattered by the symbol 170." (Col. 9, lines 20-35).

Although Dvorkis et al does teach the optical gain filter comprising a film, Dvorkis et al fails to specifically teach a multilayer film structure formed by stacking a plurality of thin films with different diffractive indexes.

Lee et al teaches the following in regards to claims 1, 5, 9, 13, and 17-24:

The gain filters are comprised of more than two or three aligned single filters, each of which is made by stacking on a substrate with several layers of optical thin films having different refractive indexes or stacking on both sides of a substrate with several different stacked films that are made of the optical thin films having different refractive indexes. (Paragraph 0018).

In view of Lee et al's teachings, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to include a multilayer film structure formed by stacking a plurality of thin films with different diffractive indexes as taught by Lee et al as the optical gain filter taught by Dvorkis et al. As disclosed above, Dvorkis et al teaches using a film with the optical gain filter and further teaches using thin arrays of elongated slats 301 formed from a thin plastic film 300 disposed over the planar light detector 146. One would be motivated to use films of different diffractive in order to filter the light at a specified wavelength.

4. Claims 2-4, 6-8, 10-12, and 14-16, rejected under 35 U.S.C. 103(a) as being unpatentable over Dvorkis et al (5,923,021) in combination with Lee et al (2003/0142408) and in further view of Koike et al (5,982,540).

Dvorkis et al's teachings in combination with the teachings of Lee et al are discussed above. These teachings include limitations disclosed in claims 3, 7, 11, and 15 of the current claimed invention.

Lee additionally teaches, in reference to claims 2, 6, 10, and 14, the two films having refractive indexes of 2.3 and 1.46. (Paragraph 21).

The combination however fails to specifically teach the films consisting of SiO_2 having a refractive index of 1.46 and TiO_2 having a refractive index of 2.3 respectively.

Koike et al teaches two films. One film is TiOx having a refractive index of 2.3 and the second film is SiO_2 having a refractive index of 1.46. (Col. 19, lines 61-65).

In view of Koike et al's teachings, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to include the films SiO_2 and TiO_2 in the multilayer film structure taught above. Lee et al teaching using films with the refractive indexes 1.46 and 2.3. SiO_2 and TiO_2 inherently have respective refractive indexes of 1.46 and 2.3 and therefore one would be motivated to use films comprising SiO_2 and TiO_2 in order to use films with the desired refractive indexes.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Frey (5,925,875), Aizawa (2003/0024989), Liljestrand et al (2003/0118477), Garnache et al (2004/0165641), and Shimomura (2004/0240016).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**allyson.trail@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Allyson N. Trail
Patent Examiner
Art Unit 2876
March 18, 2005

JARED J. FUREMAN
PRIMARY EXAMINER